

Mid-Cities Commodore Club

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MCCC NEWS

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New Stuff I Just Got

Amiga Software Reviews by Bill Raecke

Archipelagos by Britannica Software

This game is a problem to describe. It probably falls into the same category as PocoMan that I reviewed last month -- a puzzle game -- but it's quite different. First, the premise. Let me quote from the game manual for a moment.

"Where humans once danced and played, mutated apparitions now roam in eternal torment.

"Where flowers and trees once thrived, plant-like viral mutations now ebb their contaminating way across the land. And where massive expanses of mountains, plains, forests and deserts once hosted a myriad of life forms, vast oceans have buried their homes.

"It was man himself who turned his living playground into a living graveyard -- with poisons, plastics, and nuclear waste. He melted the polar caps, flooding the continents. And all that's left are thousands of decaying land masses. Masses known today as the Archipelagos."

Sounds depressing doesn't it? But it sounds interesting as well. All that's left of our planet is a series of islands. Your assignment (should you choose to accept it) as Environmental Purifier (EP) is to clear each of the Archipelagos in turn by deactivating the radioactive node/obelisk power system. Oh, I didn't mention the node/obelisk power system did I? Well, first you have to find the nodes. There is a status bar on the bottom that tells you how many there are on the particular island you are currently trying to clear. You must find each and destroy it with a simple press of the left mouse button. One complication: each must be connected via a land mass to the obelisk. Your Hoversphere (a silicon-plasma ball that hovers about 10 meters above the ground) is capable of creating land but that takes power. You can get power from the nodes or from the sand pods. Wait. This is getting much too complicated. Let's take it a step at a time.

The view is a three-dimensional rendering of a land mass surrounded by water as seen from the inside of your hoversphere. Land is represented by a series of squares of different colors. You maneuver your hoversphere by pointing and clicking with the mouse button. There are a couple of things to remember when moving around. First,

stay away from the areas of the ground that have been infected. You can spot them easily because of their red color. If you hover too close, you too will become infected. Second, you cannot move onto sand or water -- only onto normal land. You can make land by pointing with the mouse and pressing F1. One press will turn water to sand or sand to land. The F1 key has one other use as well. It can disinfect an infected spot of land. Pressing the F2 key will display a map of the island.

There are several life forms remaining on the planet. Viral Trees infect the land as they move toward you. If they infect a square that you are hovering over you will become infected as well. Eco-Eggs are designed to soak up toxic waste. Unfortunately, if they break, the entire island will be infected quickly. Sand Pods can be used to refuel the hovercraft. Point with the mouse and click the left button.

The left button has one other use as well. It is used to destroy Nodes and Obelisks. When you destroy all the nodes on the archipelago, you will then be able to destroy the obelisk. When the obelisk is destroyed, the archipelago is disinfected and you may move on to the next. The trick is to plan your moves. After destroying the last node, you have 90 seconds to meltdown. You must be able to return to the obelisk and destroy it within that time limit. Make sure the last node is close at hand and that there is a clear path.

There are a couple of other things to get in your way. Necromancers are the ghosts of other EP's (Environmental Purifiers) who didn't make it. They eat away at the edges of the archipelago. Contact with them is deadly. The B-900 (Banshee) is an Air Cleaner. It cleans up everything -- including you if you get too close.

Archipelagos is an interesting game. It starts out deceptively easy and gets progressively harder and harder and the levels pass by. The only complaint I have is that the graphics aren't up to normal Amiga standards. We all know what our computer is capable of and it is somewhat disappointing when a game doesn't live up to the potential. On the other hand, this is a game that depends on strategy - not "knock your socks off" action. That being the case,

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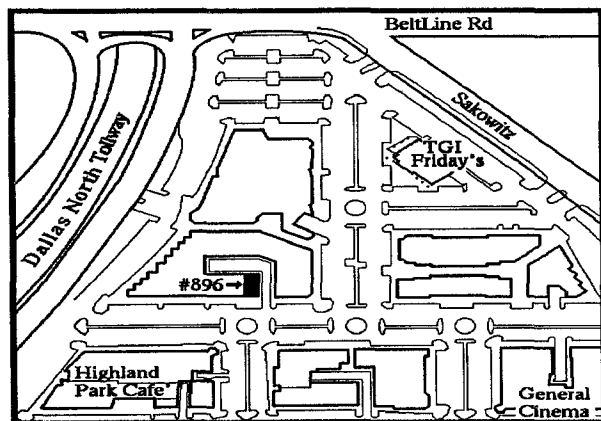
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graphics are not nearly so important. By the way, you're probably wondering how many levels there are. According to the documentation there are 9,999. I haven't seen them all yet myself. I plan on seeing a good deal more of them before I'm through with this game, however. I give it a thumbs up.

Virus by Rainbird

There may be a pattern emerging here. The premise of Archipelagos, just reviewed, was that of a contaminated planet which needed to be disinfected. The premise of Virus is that of a planet under attack by aliens who are attempting to infect the landscape with a virus. Your job is to repel the attackers using your trusty Hoverplane. It all sounds very familiar. In fact, however, the games are quite different.

"All of the scenery and objects are generated on the fly by our trusty Amiga using real-time solid modeling. No premade bitmaps here. The scrolling is very smooth and very fast. Really impressive stuff."

Virus is basically an action game. The only strategy involved is to locate the alien ships and destroy them without: a) running out of fuel; b) getting destroyed by an alien ship rather than destroying it or; c) crashing into the landscape. That last possibility becomes a big factor in this game because the trusty Hoverplane is a real bear to handle. But let me back up just a little.

The game view is from a magical point in the sky parallel to the Hoverplane. This position allows a 3D perspective view of both the Hoverplane and the landscape below. The land is a series of rectangles -- hills and valleys are portrayed quite realistically. The landscape is dotted with trees, houses and other objects. Perhaps the word "dotted" is misleading. These objects have real substance as they rise up from the landscape. The ocean is a flat blue plane except for the whitecaps and the occasional jumping fish. The Hoverplane and the enemy ships are saucer-like affairs in varying styles and colors. And they cast realistic shadows on the landscape below. All of the scenery and objects are generated on the fly by our trusty Amiga using real-time solid modeling. No premade bitmaps here. The scrolling is very smooth and very fast. Really impressive stuff.

There is a map in the upper left hand portion of the screen that shows your position and the position of the enemy ships. It also shows the amount of the landscape which has been infected.

The Hoverplane, as I mentioned earlier, is not easy to handle. At the start of the level, the mouse is centered. The distance from that center point controls the amount of tilt. The angle from the center point controls the direction. You can travel in any direction and at any angle. When you get the craft properly positioned, you fire your rocket (located

directly under the Hoverplane and controlled by the left mouse button) and off you go. Of course, while you are trying to get situated for this, gravity is trying to pull you to earth. You must keep firing the rocket just to stay aloft. The right mouse button fires the gun. Pressing the "M" key launches a homing missile toward a target but these are in limited supply.

The game is a lot of fun. Be ready for a lot of trouble controlling the ship. The controls are very sensitive and difficult to master. It is not unusual for me to find myself in an upside-down position so that when I fire my rocket it drives directly into the ground -- or the water. But then, that is the challenge of the game. Without it, this would be just another shoot-em-up. With it, Virus is something above the ordinary. The package claims that Virus is "the most infectious game ever". Cute. It also may just be true. Another big thumbs up.

Out Run by Sega

This one is the mindless arcade game of the month. Typical race car action. Average graphics. You are in a race with a bunch of other cars. The view is from behind the car. A close encounter with another car will simply slow you down somewhat. An encounter with an object on the side of the road will usually result in a crash. When that happens, the car flips over several times and the driver and his date wind up sitting next to the car on the ground before heading out again after a second or two. At speeds of 295 mph or thereabouts, not very realistic. I know - arcade games aren't supposed to be realistic but this one seems sillier than most. Maybe because it's a familiar setting. After all, we don't have many preconceived ideas about battling aliens but we do know a few things about car racing. It seems to me that it could have been better.

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1541 Disk Drive Secrets (Part 2)

C64 Hardware Information by John Ware
Mid-Cities Commodore Club

Last month we took a light look at what the format actually does to a disk and where DOS keeps a record of the sectors used. This month we will continue by looking at how DOS keeps track of what sectors have been used and the actual directory on a disk.

The BAM starts at byte 04 and ends at byte 8F, the byte before the actual disk name. This area has space for 35 tracks. The first track sector map starts at 04 and ends at 07. The next track sector map starts at 06 and ends at 0F. The other 33 track maps continue, four bytes at a time, to 8F. In each of the 35 track maps the first byte is a count of free sectors. Like everything else displayed by the sector editor, this is also in hex. The next three bytes are the sectors used map for the track.

```
00: 12 01 41 00 15 FF FF 1F . . . A . . . . .
08: 15 FF FF 1F 15 FF FF 1F . . . . .
10: 15 FF FF 1F 15 FF FF 1F . . . . .
18: 15 FF FF 1F 15 FF FF 1F . . . . .
    and so on
40: 06 1C 70 00 00 00 00 . . . . .
48: 0E 6C FB 07 00 00 00 . . . . .
50: 00 00 00 00 00 00 00 . . . . .
```

At first there seems to be no method as to how these bits relate to a single sector, but there is. In the above example we will look at track 18. This starts at byte 48. We know from last month that track 18 has 19 sectors. The first byte is the free sector count. On a fresh long formatted disk before *any* files are saved to it, this byte will be 11 in hex. Two sectors will be used, sector 0, the BAM, and sector 1, even though no files have been stored on the disk. In the BAM above, look at byte 4B and you will see that it is 0E. Because some files have been saved it will not be the same as the number of sectors for the track. This shows that four blocks have been used on track 18.

The *really* confusing thing is how a bit in the next three bytes relate to a single sector. If a sector is free, the corresponding bit will be a 1. What you see after the free sector count byte will be 6C FB 07. The 6C is the bit map for sectors 0 through 7, FB is for sectors 8 through 15. The remaining three sectors are mapped by the 07 byte. For each of these pairs, the sectors number from the right to the left as shown below. The X is for invalid sector numbers and will *always* be zeroes. This shows that sectors 0, 1, 4, 7, and 10 are used. There are five used according to the free sector byte and the track map also shows five free as it should.

6	C	F	B	0	7
0110	1100	1111	1011	0000	0111
0000	0000	1111	1100	XXXX	X111
7654	3210	5432	1098		876

The directory is actually a special purpose file that holds information about every program or file on a disk, except the directory. DOS creates and maintains the directory solely for its own use and therefore is not normally considered to be a user accessible file. *All* disk operating systems have their equivalent to the directory and work in ways similar to the 1541 DOS.

Why does DOS happen to use track 18 instead of some other track and why the whole track? A 1541 disk normally has 35 tracks so track 18 is as close to the middle of the disk as possible. This reduces the time it takes DOS to find and read in a file. It takes time to move the disk heads from one track to another. By placing the directory in the middle of the disk the amount of time required to load a file is kept to the least possible time -- 17 tracks at the most. If the directory were on track 1 and the file desired was on track 35 it would take twice as long for the heads to get to the track. A 1541 is slow enough as it is! By allocating the whole track, DOS has an easier time keeping track of the directory and the sector maps.

The actual disk directory starts on track 18, sector 1. A single sector will hold up to 8 file or program entries. As far as the directory is concerned, a file or program are exactly the same. Both use disk sectors and read and write the same. A directory entry will contain the file type, the starting sector, the name, and a count of sectors used by the program in that order. Before we examine the directory in detail, one small matter has to be taken care of.

That detail is something called an interleave factor. At first thought you would think that DOS would assign sectors on a disk in order, the way they are numbered. When DOS wants to read or write a sector it tells the mechanical part of the drive to move the head to the requested track. Next DOS verifies that the head got to the requested track by reading the sector headers placed on the disk by formatting it. If the head is where DOS told it to go, DOS starts looking for the correct sector. There is not much distance between the sector headers and the actual data area. DOS reads the entire header including the checksum byte. Next DOS uses the checksum to verify that the header data does not have any errors in it. This takes some time. All of the figuring is done by the 6502 in the drive.

If the sector is to be read, the 6502 just stays in a read mode until the next sync mark comes along. This will be the one at the start of the actual data area. Reading continues until it finds the two 00 bytes at the end. All this time the true data bytes are being placed in one of the four 256 byte data buffers in the drive. As soon as the data is checked for errors using the checksum and no errors are found, the 6502 switches to sending the data to the 64.

When a sector is to be written, the 6502 will first load one of the internal buffers with data from the 64. Now the 6502 switches to a read mode and stays there reading sector

headers. As soon as the desired sector header is read, the 6502 switches to a write mode, waits for a small amount of time, then overwrites the existing sync mark with a new one. Next, the data and a new checksum are written followed by the two 00 bytes. Because the data moving between the 64 and the 1541 takes more time than the time between sectors, it is impossible to write one after another. Some number of sectors *must* be skipped. The number skipped is called the interleave factor and is normally 10 for files on a 1541 drive. The directory track (18) uses an interleave factor of 3 except for the BAM sector and the first directory sector.

The sectors skipped on one trip around are used the next time around the same track. For the first file on a disk, other than the directory, the first track used will be track 17. This track has 21 sectors numbered from 0 through 20. The sector order used will be sector 0, sector 10, sector 20, sector 9, sector 19, and so on until the last sector needed is used. If these sectors are being written, the BAM will be updated at the same time.

Now load up your sector and examine track 18, sector 1. You will see something like:

```
00: 12 04 82 11 00 48 4F 57 . . . . . H O W
08: 20 54 4F 20 55 53 45 A0 T O   U S E . .
10: A0 A0 A0 A0 A0 00 00 00 . . . . .
18: 00 00 00 00 00 00 0E 00 . . . . .
20: 00 00 82 11 05 48 4F 57 . . . . . H O W
28: 20 50 41 52 54 20 54 57 P A R T   T W .
30: 4F A0 A0 A0 A0 00 00 00 O . . . . .
38: 00 00 00 00 00 00 08 00 . . . . .
    and so on
```

This is the actual data for the first two file descriptors on the disk. There can be up to 8 of these on a single sector but only the first two are shown here. Each has information on the program such as the file type, the starting track and sector of the program or file, the number of blocks in the file, the track and sector used for a SAVE with replace and OPEN with replace. If the file is a relative file, the record length, and the track and sector of the first side sector used with the file.

The first two bytes of the file descriptor are not used, *except* for the first one on the sector. These are bytes 00 and 01. They are actually a pointer for DOS to where the next sector is to be found or the address of the last byte used if, *and only if*, this is the last sector in the file. For this directory sector they are 12 04. This points DOS to track 18, sector 4 for more of the directory. The last sector used by a file will have 00 in location 00. Because there is no track 0, DOS knows that this means the next byte is the address of the last byte used.

The next byte in a file descriptor, byte 02 for the first descriptor and byte 22 for the second one, are the type of file. This byte also indicates if the file has been deleted, locked, and correctly closed. This information is encoded in a binary format. Bits 1 through 3 indicate the file type, bit 7 indicates if the file is locked, and bit 8 indicates a properly

closed file. The table below will help sort this out. A file type of less than 81, except 00, indicates problems with the file.

BIT	8	7	6	5	4	3	2	1	(HEX)	FILE TYPE
0	0	0	0	0	0	0	0	0	00	DELETED
1	0	0	0	0	0	0	1		81	SEQUENTIAL
1	0	0	0	0	0	1	0		82	PROGRAM
1	0	0	0	0	1	1			83	USER
1	0	0	0	1	0	0			84	RELATIVE

If the file is locked, bit 7 will also be 1, therefore:

1	1	0	0	0	0	1			C1	SEQ (locked)
1	1	0	0	0	1	0			C2	PRG (locked)
1	1	0	0	0	1	1			C3	USER (locked)
1	1	0	0	1	0	0			C4	REL (locked)

The next two bytes are the starting track and sector, in that order, of where the file starts on the disk. The next 16 bytes are the file name as it appears in a directory of the disk. If the file name is less than 16 bytes, the file name will be right filled with shifted spaces (A0). *Anything* that is on the keyboard can be used in the file name but I don't recommend using the asterisk or question mark because of the way DOS uses these two characters in finding file names. There are some tricks you can use here to prevent directory listings, but I will get into this later.

The next three bytes will be 00 for all files except RELATIVE ones. As these are very rarely used, we will skip this. The next three bytes are unused by DOS. A full directory sector will have 16 of these bytes -- enough for a short message that *only* shows if you look at the sector with a sector editor.

The next two bytes are the replacement track and sector used during a SAVE or OPEN with replace command, otherwise they will be 00. By looking at these bytes you can tell if the file has been subjected to one of the replace commands. The remaining two bytes are a count of the number of sectors used by the file. This is a two-byte integer number in the usual low byte first, high byte second method used by a 6502 chip. If you ever see 0297 hex here, watch out because you have problems. That is 663 in decimal and very rarely will DOS let you use the last sector on a disk. If you use the SAVE with replace command when making changes to a program, add three to the block count and leave that many blocks unused. Then file copy or save the completed program to a new disk.

If you do things like deleting a lot of files then storing new ones on the same disk, you can speed things up a bit by file copying the undeleted files to a new disk. This gets the programs on the new disk in the correct sector order for the fastest possible load times. DOS *always* starts from track 18 to find free sectors when you save programs and files. If it finds a free sector then that sector will be used. After a while the files get scattered all over the disk which causes them to take longer to load. As someone once said, "patience is a 1541 drive". It can use all the help possible.

Next time, how to hardwire the 1541 drives.

Falcon Mission - Operation Counterstrike

Amiga Software Review by John Shortle
From Amy Info

Spectrum Holobyte recently released an update to their hit simulation/action game "Falcon". The update is titled "Falcon Mission Disk, Operation: Counterstrike", but contains much more than a few new missions for Falcon pilots to fly. The update actually replaces the game disk of the original "Falcon" and provides several improvements to the original program. To play "Operation: Counterstrike," you must copy your old mission disk (disk #2) onto a blank disk. Flip the update into drive DF0:, the copied disk into drive DF1:, and start up. (As before you must enter a letter from the code wheel to play the game.)

The object of "Operation: Counterstrike" is similar to that of "Falcon": fly your plane into enemy territory in an effort to destroy the enemy's offensive potential. Unlike the original Falcon, however, each of the new twelve missions is only a part of your overall objective to force the enemy into negotiating peace. The scenario starts with a fleet of enemy tanks heading toward your home base. The first mission you'll want to fly is "Rolling Thunder" (the objective of which is, of course, to destroy these tanks that are about to overrun your base). If the enemy ever does overrun your base, you'll be taken prisoner when you land and possibly be executed for war crimes. After you have destroyed the tanks and the landing crafts (which bring the tanks across a lake near your base), you have several options for subsequent missions. There are a convoy of trucks approaching your base from the north and a train carrying supplies approaching from the east. You can either destroy the trucks and train outright or, if you're quick, knock out one of the bridges that the train and trucks must cross. Once you've got some breathing room, you can put together an offensive of your own. There are several key industrial sites that you must destroy to force the enemy into negotiating peace with you (provided he doesn't overrun your base in the mean time). These sites are the fuel tanks at the oil refinery, the tank factory, the power station, and the arsenal. Upon completion of the game, you will receive a medal and

a substantial point bonus, based upon the rank at which you flew your missions.

Winning the game, however, is not simply a matter of successfully completing every mission in order. The enemy is quick to rebuild his destroyed forces. Tanks, trains, trucks, factories, and bridges will all be back a few missions after you destroy them. You must therefore pick and choose the appropriate missions to fly to keep the enemy in check. If you're not quick, you'll face a continuous stream of tanks heading toward your base, and you'll never be able to hit the enemy's industrial sites.

"Operation: Counterstrike" also provides several enhancements to the original "Falcon". The first thing you'll probably notice is the more lenient landing parameters. You can now land the aircraft off the center of the runway, you can land a damaged aircraft, and the MiGs will never attack you as you fly home. Of course, to balance this out, the enemy has updated his planes from MiG-21s to MiG-29's.

The keyboard, joystick, and mouse controls have been rewritten in "Operation: Counterstrike" to provide more responsive control of the aircraft. The aircraft will also automatically level itself after a slight bank. This is very handy when adjusting one's approach on a target. This feature can be toggled off when not desired. There is also an auto-view mode which automatically switches views within the cockpit to give the best look at nearby MiGs. Finally, the radar and HUD have been updated to reflect current F-16 avionics.

I highly recommend "Operation: Counterstrike" if you have enjoyed "Falcon". The more responsive controls make for more enjoyable flying, and the new missions provide strategic and gaming elements not found in the original.

"Operation: Counterstrike" retails for \$24.95. It requires the original "Falcon" to run. "Operation: Counterstrike" will run with only 512K RAM, but requires one megabyte for a few of the extended features.

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*Thought
For The Month*

*A Closed Mouth
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Video SIG

An MCCC Special Interest Group Announcement by Jack DeTore

It was bound to happen... Several Club members own video cameras or are hoping to do so. Some want to be able to have video as a hobby; others plan to use it in business. Some are proficient and others would like to learn how "to do it better". Just about ALL would like to combine video with their computer's ability for enhancing titling, special effects, animations, and editing. Well, here's the chance to DO something about it... VIDSIG!

If we can gather a "critical mass" of interested Mid-Cities Commodore Club members, we'll have an opportunity to meet occasionally and exchange hints on combining video and computers as a Special Interest Group within the Club. This group may have members from any Club chapter and will be open to owners of 64/128 as well as Amiga computers. Since we may want to rent space or special equipment at times, we may incur costs that should be shared by members of the SIG and not be a burden to the MCCC treasury.

We now have what may be our first VIDSIG event. We'll be viewing some of the creative video being done by talented Art department students at the College of Liberal Arts at UTA. Club member and Fine Arts Professor, Jim Pomeroy, tells of how these individuals are using Amigas to do imaginative and innovative video animations that are causing TV professionals to sit up and take notice. The UTA Media Services Division also has taken aboard an Amiga to help with video post-production tasks. Technical procedures for getting clean, broadcast-quality tapes from their genlock equipment that combines live video with computer graphics from the UTA video studio are being developed by the engineering staff. No doubt, there'll be opportunities for discussing all facets, from creative arts to viewing the end result.

Currently, a tentative time for the meeting is Monday, February 19th at 7pm. (Please check with me the last week in January for meeting time.) VIDSIG will coordinate with the Society of Film and Video Artists of the UTA Art Department on this meeting. Given enough interest among our VIDSIG as well as students, we'll be viewing the material with large-screen projection in the Hereford University Center. The meeting will be open to VIDSIG members or UTA students. VIDSIG members would learn something more about this subject and provide a sounding board for talented young folks showing their creations; they, in turn, will gain more experience in presenting their works to the world at large.

If you want to attend this VIDSIG event or learn more about VIDSIG, call me at my home on weekends or after work weekdays at 817-275-3762. I would like to have feedback as to how many will want to come as VIDSIG members to this meeting, and how you think VIDSIG might help you.

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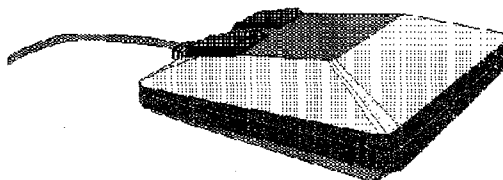
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Speed: How Fast Is Fast?

General Information by David Barnish

From the Newsletter of the Catalina Commodore Computer Club

(Editor's Note: This article was written for IBM PC's and their clones, but the information pertains to our machines as well.)

Why do people move up to new systems? There are many reasons, but one of the main reasons is speed.

Nothing is worse than sitting in front of a blank computer screen. There is one thing that a computer should

"There is one thing that a computer should never make you do, and that is wait."

never make you do, and that is wait. You don't stop and consider that your computer is doing things in those few seconds you sit idle that would take you several months to accomplish. All you know is that the Tyson/Spinks fight is coming on in three minutes and you need to recalculate a major spreadsheet before you can sit down. Most of the newer applications coming out these days are taking up more and more room in your computer's memory and stretching the limits of your CPU.

How fast is that nifty new 386 number cruncher? How does it compare to an XT? an AT? And how much speed do you really need? This article will help clear up these questions and open your eyes to the real meaning of computer speed.

There are several interlocking factors that contribute to the speed of a system. A crystal is used to control an internal clock that governs calculation cycles in your computer. The entire architecture of the hardware and operating system is built upon this clock cycle. This timer is measured in millions of cycles per second, or megahertz (MHz for short). An "ADD" instruction may take two cycles to complete. It is obvious that a machine running at 16 MHz will perform this instruction twice as fast as an 8 MHz machine. PC's and XT's have a clock speed of 4.77 MHz. Turbo systems run between 6 and 8 MHz, while 286 and 386 systems will run from 8 to 25 MHz, depending on which chip was used to build the system. *(Editor's note: Compare this to the 1 MHz of the C64, the 7.14 MHz of the standard Amiga or Jack Smith's 68030 Amiga running at about 27 MHz.)*

An important bit of jargon to know when talking about the speed of a system is Benchmark Testing. A benchmark is a program that is used to test the speed of computers. It reveals the computer's practical speed in a real-life computing situation. Some benchmarks have become well known enough to be thought of as a sort of standard. A computer that is rated at 16 MHz throughout may be

"clocked" at only 12 MHz, but it has supposedly run the benchmark program at the speed of a 16 MHz computer. Norton Benchmark and the Landmark Speed Test are two examples. Don't confuse real speed with these benchmark tests.

Speed in megahertz units is the best known, but it is not the only measure nor necessarily the most important.

The microprocessor that your computer uses is equally important when it comes to speed. The microprocessor will tell you how much data it can manipulate at one time (during one cycle). An 8-bit microprocessor can read in and manipulate one byte of data at a time. If a computer instruction is two bytes long, it will take two cycles (more or less) to read in the data and a few more to process it and send it somewhere else. A 16-bit microprocessor can read the same amount in one cycle. A 32-bit microprocessor can read twice as much as the 16-bit and is, consequently, twice as fast. A 386-based machine (which, by definition, must have a 32-bit microprocessor) running at 12 MHz is about five times faster than your average XT, which runs at 4.77 MHz with an 8-bit processor.

Another important speed factor is the number of wait states your computer has. If your system is configured with components that run slower than the clock speed, a large amount of time is spent in idle cycles where your CPU is waiting for data. Some wait cycles cannot be avoided but, for the most part, your system should be able to function at the speed which it was intended to run. The wait state is the number of cycles that the computer has to sit idle. If it has to sit idle every other cycle (2 wait states), its speed is reduced to 50% of what it should be. If you invest in a new system, strive to get a system with zero wait states.

Believe it or not, Random Access Memory (RAM) can also slow a system down. Most RAM used in systems is Dynamic Random Access Memory (DRAM). DRAM leaks magnetic charges like a sieve and must be recharged every few milliseconds or so. The computer must stop and recharge the DRAM before it can do anything. This eats up a lot of precious time. There is almost no way around this problem unless you have lots and lots of money. Static RAM (SRAM) is capable of holding a charge until the power to your computer is turned off, so it does not need to be refreshed. The chips are very fast, but they are also very expensive. Most people find that it is very easy to live with this slowdown when measured against the cost of SRAM. Hopefully, SRAM will come down in price in the future -- but don't hold your breath.

There are other "speed stealers" associated with input/output devices. Factors such as access time in disk drives, buffer space in printers, and serial or parallel interfaces are just a few. Some of these topics are best left to future articles.

...Continued on Page 12

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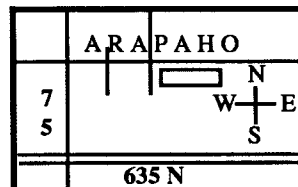
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FontMaster 128 - A Biased Review

C-128 Software Review by Marvin Schaunaman

From the Newsletter of the Greater Omaha Commodore Users Group

Like the title says, this is a very biased review of "A powerful word processing system for the Commodore 128". As a word processor program, I am not that impressed with the package. For some one looking for a great publishing package with lots of fonts and column handling capabilities, also the capability to insert graphic pictures just about any place within the text, this is a wonderful package as long as speed is not a very high priority.

The program comes with 45 fonts ready to use and a font editor creator option that I have not taken the time to check out yet. Some of the fonts are very easy to use. Just load and select the font as a text modifier by just pressing the C= key and the number that corresponds to the slot that the font is loaded in. Some of the harder to use fonts, for me anyway, are GREEK, HEBREW, INUKTITUT, KOREAN, and MISC. Part of the difficulty with these fonts is the fact that I am not fluent in these languages and that the MISC. font is a set of graphic characters that are not in a familiar format for me.

As mentioned earlier, this program is not intended to be used as a high speed output. As an example, I printed some certificates of appreciation up as a first time project. The certificates used three different fonts and the border font. When I printed them out they only took up approximately 6X5 inches on a sheet of paper. The speed, I should state, is slow because everything is printed in graphic mode. The time for these small pieces was 5 minutes per

item to print out on my Panasonic KX-1191 printer.

One thing that I do not like about the program is the preview feature. It is great to be able to see what it looks like before you print it out but it would be nice to be able to see all 80 columns at one time instead of only 53 columns and using the cursor control keys to scroll left and right only. It is what the book calls "what you see is what you get". It is great to save paper when experimenting with line spacing, centering and proportional printing, however you can not view back to the top of the form but you can scroll left and right or down. I am spoiled by Pocket Writer 2 where what you see is what you get on the screen as you type it in. Although Pocket Writer 2 does not let you use a lot of fonts, it is easier to use for a straightforward word processor for letters, papers, thesis and that sort of thing. Even with the limited help screens available on the top of the page with Font Master 128 the book comes in very handy during the learning stages. With Pocket Writer 2 the help screens are exactly that -- help screens right in front of you on the monitor when you ask for them. The fonts with Pocket Writer 2 are limited to bold, superscript, subscript, italics, and underline in addition to the dot matrix font.

Font Master 128 is capable of handling columns up to 4 per page and depending whether or not your printer is capable of reverse paper feed. It is very easy to do columns with one pass if it is capable of the reverse page feeds.

...Continued on Page 12

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Dungeon Master

Amiga Software Review by Fred Mayes

From the Newsletter of the Commodore Users of Bartlesville

Well, I'm not really into this dungeon stuff. I read in the newspapers how all these serial killers and kids who commit suicide all have three things in common; they all are loners, they all like Snickers candy bars, and they all like Dungeons and Dragons. I'm not disputing that there is danger in dwelling on the gruesome, demons, sorcery, reincarnation, spirits, death, role playing, etc. You are what you think - if you take this stuff seriously, it may trigger some weird switch somewhere. I tend to approach it in the vein of an Indiana Jones adventure; just watch your attitude towards such games and don't blame me for consequences. (EDITOR'S NOTE: Be sure to take the same cautions into account the next time you eat a Snickers bar. The dangers there are just as real. That, too, may trigger "some weird switch".)

Now, having said that: my first introduction to this type of adventure was the 64 game: *The Temple of Apshai*. It had very crude graphics showing a maze from above and a block figure. You told the figure which way to go. If attacked, you gave commands from the keyboard and it told you how you fared. The object was to search for some treasure and remove it from the maze. I was pretty bored with *The Temple of Apshai* and thought the only neat thing about it was the bell type sounds and gothic type text that it used. Since then, I looked at *Bard's Tale* and a few others, but never got excited about any of them.

I recently bought the Amiga version of *Dungeon Master* and I think it is the neatest game yet for the Amiga. The opening screen is of a very detailed view of a door in a rock wall. There are strange symbols over the door, two buttons on the side, and a scroll laying in the grass by the door. If you click on the scroll, it tells you who wrote the game. One of the buttons is to enter and start the game, the other is to resume a saved game. If you start the game, the door opens with stereo sounds of chain driven gears. Once you are inside, you see the inside of a dungeon, the same view you would see if you were standing there yourself. Rock walls, floor and ceiling. The passageway has perspective so that you can see the end of the passageway and branches. On the right side of the screen are arrows pointing to the front, back, and sides as well as arrows indicating turns to the right or left. If you click on these arrows, you move in that direction; the turn arrows face you in the new direction without moving. If you look behind you, the door is shut with no way to exit. Clicking on the forward button takes you down the corridor. As you approach a branch, you must turn in the new direction to see into the branch.

Following the corridor brings you to a series of large rooms with pictures hanging on the wall. The pictures are of dead heros. If you click on the image, the screen displays information about each hero and his attributes. Each will have varying degrees of physical strength, magical power,

fighting ability, etc. Each hero has specialized skills as a fighter, ninja, priest, or wizard and may carry some weapons. There is a lot of information about each. You can click another button and bring these heroes to life. You can take 4 of them with you into the dungeon with the object of finding a magic staff and removing it from the dungeon. There are 24 heros to choose from.

After selecting your party, you find a closed door with a button imbedded in the wall. Your mouse pointer is a hand. Push the button on the wall with your pointer finger and the door opens. As you look around, you see food lying on the floor. If you move your hand over the object and press the mouse button, you pick it up and hold it in your hand. If you click on one of your heroes' icons, you return to the info screen and can store the food in their inventory list. There is also an icon of an eye and a mouth on this screen. If you hold the object in front of the eye and press the mouse button, you are given information on the object; it may tell you that it is an apple, weighs 1/2 lb. and is consumable. If you hold the apple over the mouth and press the mouse button, you hear a loud gulp and the apple is eaten. You are also shown a bar chart indicating how hungry the hero is, how thirsty he is, and what his magic skill level (mana) is. If you let the thirst or hunger level get too low, he will die. As he moves around and carries more stuff, he consumes more energy so you constantly have to worry about keeping you party fed and watered. Water is plentiful within the dungeon, but you need suitable containers to carry it in. You soon get used to eating food off the floor. Some monsters you run into can be eaten also. There are no Luby's cafeterias in this dungeon!

As you explore, you also find weapons, messages etched into the walls, and scrolls which give hints. You read the scrolls by picking them up and then holding them up to a hero's eye and pressing the mouse button. You also find an altar; if one of your party gets killed, you can bring the bones back to the altar and he will be brought back to life (you can think of this as getting a recharge). There is an altar on level one and I have seen one behind a locked door on level three. I assume there are several scattered throughout the dungeon. You also find a torch being held in a bracket next to some stairs. A scroll tells you the torch is magic. Grab the torch and go downstairs. This completes level one. There are fourteen levels to this game.

Above the direction buttons on the screen are some strange symbols. The symbols are vaguely described in the manual; they deal with magic spells. You have to experiment with combinations of the symbols to cast spells. One of the first spells you learn is how to keep your torch lit. You may find that the right command won't work because you haven't enough skill to use it or the leader of the party does not possess magic skill at all (mana). The more you practice, the better you get. The same way with

weapons; some maneuvers with swords only come with practice. So, you need to spend some practice time while exploring. Anyway, after you get your torch lit you can explore some more.

You will encounter monsters. You will find out that this game utilizes real time. If you do not react quickly in dispatching monsters, they will dispatch you. If you have a "live and let live" attitude, they will hunt you down like a dog. You need to be alert, with weapons drawn and ready, and with spells ready to be cast.

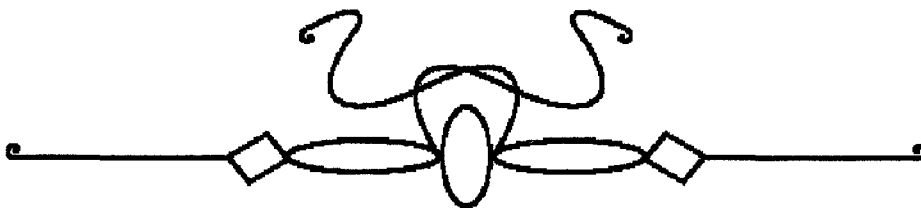
This is basically the game; keep track of where you are, solve puzzles about how to gain entrance to locked doors. Sometimes there are trap doors in the floor, pressure plates which must be stepped on to open doors, sometimes in the right sequence, levers to be pulled, buttons to be pushed. Sometimes the keys are close to the same color as the floor or the buttons are very small, so you have to be observant and have good light. I have not gone very far in the dungeon. I have made it to the third level and still have all of my party. I am searching for keys and trying to figure out how to get past some shuffling log piles that emit a poison gas.

You can save your game at any time, and you can

format a disk from within the program. You find out quickly that it is prudent to save your position often especially before you open a locked door. You can only save one game per disk, and after playing awhile, you may find you wished you hadn't saved the last position; you might have been in better shape during the previous save. It is prudent to have several save disks. I don't know why you are not allowed more than one save per disk.

You can put the party to sleep to restore energy, but the game continues while you sleep. Monsters may be silently closing in on you while you doze. You can freeze the game if it is time for a break or the spouse demands to know when you are going the paint the house or mow the yard and you figure you need to give some undivided attention elsewhere for awhile.

It's a neat game. The graphics are fantastic. The sounds are unobtrusive and realistic. The silence as you retrace your steps trying to find that passage you were in a while ago seems to increase the illusion of being there. When you do hear something, it's usually not good news. You may even start to hear footsteps when the computer is off! Then it's time to give the game a rest for several days. You don't want us to read about you in the newspapers.



Speed: How Fast is Fast? (Continued From Page 8)

If you don't have a few thousand dollars to blow on a new system and you want to speed up some of your own code, you might think about learning a new programming language. High-level languages are very easy to program in but are notoriously slow. A move to Assembly, C, or a BASIC compiler might speed up your own code enough to make you think that you have a new machine. I would like to end this article with a recent experience of mine as an example.

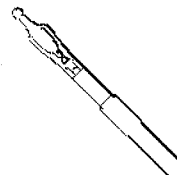
I wrote a program in BASIC to do some number crunching for me. The program was simple but had to do millions of calculations. When I first ran it, I could tell that I was in for a long wait. I stopped it and used a BASIC compiler to compile the code. From past experience with this compiler I knew that the code would be about three times faster. I started the program and it ran for 16 hours! I had the code translated into C, and it ran only one hour. By translating the code from BASIC to C, I gained a speed increase of 4800 percent, and it was running on the same machine. I can't wait to see how fast it will run on my new computer.

FontMaster 128 - A Biased Review (Continued From Page 10)

Even without the reverse feed, all you have to do is align the top of the page the same way each time you print a new column.

So, in general, I give Font Master 128 a fair review. If you are looking for a great publishing tool this is the ticket. If you are looking for a great word processor, look at something else like Pocket Writer 2. Also, if you are looking for speed, do not look at Font Master 128. If you are looking for a lot of different fonts with a lot of capabilities with the fonts, this is a great package.

FontMaster



Amiga By-The-Loop Brent Wood

Happy New Year! I hope you got all those Amiga products that you just couldn't live without. By all indications, this should be the "Year of the Amiga". What with all the new advertising on television and in print during November and December last year. It's about time, too!

The Amiga By The Loop chapter officers were "elected" last month and are:

President	David Owens
Treasurer	Bruce Nelson
Librarian	Gary Campbell
Secretary	Brent Wood

We can still use a Vice President. That job will be very easy this year. During the coming weeks we will approach likely candidates. Lots of club level benefits for officers.

December's meeting was attended by about forty-four "Amigoids" who witnessed David Owens put on a blistering display of gaming ability. David demoed such games as "Fiendish Freddie's Big Top O' Fun" and "Altered Beast". The games were provided by Computer Emporium who also had a table full of software for sale at the meeting.

Some upcoming presentations we hope to have soon

include voice recognition on the Amiga and the Amazing Computing magazine Lucas board project for

the A1000. Plus as much new software and hardware as we can get to the meetings. Look to this column for information on meeting times and (hopefully) presentation topics.

New library guidelines are now in effect. Information detailing the changes should appear elsewhere in this newsletter. So... since I want to get back to my new goodies, I'll let you know that the next meeting of By The Loop will be on Tuesday (of course) January 9, 1989 (oops! I ALWAYS have trouble with that for the first few weeks.) Nineteen Ninety! Same time, same place. That is, 7:30 pm in room 208 of the North Richland Hills Church of Christ building.

Amiga Central Bill Raecke

Since the December meeting has not yet taken place as I write this, this will, of necessity, be a short article. Our December meeting will feature games. December is always a good time for a little rest and relaxation - since everywhere else is hustle and bustle - and games seem to fit the bill. We expect to have a bunch for you to look at. I'm sure we will all have a great time.

Right about now I should be telling you about the upcoming January meeting. Problem is, I don't know what it will be yet. All I can offer is - be sure to be there. This will be the first effort of our new Vice President and I know it will be good. Let's all show him our support.

Amiga North Dallas Genny White

(Due to holiday schedule necessities, please forgive the odd tense:)

On Wednesday, December 13th, our chapter will have had a nice meeting which

will hopefully have been attended by many members and guests, who will have enjoyed a presentation by George Heyser of Metropolitan Computing on Desktop Publishing. At the meeting, we will have been informed that the meeting place, time, and topics for the January gathering have not been finalized, but will soon be announced by Bulletin Board notices, flyers at Amazing Computing, and phone calls to members. We will also have been reminded to tell all our interested friends that they are welcome to attend our meetings, and are encouraged to join and enjoy the benefits of membership: library access, bulletin board, cheap disks and comraderie! I hope by the time you get this you will have had an equally interesting meeting wherever and whenever you are. Happy Holidays!

Arlington / GP Eddie Allen

The Saturday workshop continues to be there for your use. So come and let us help you in any way that we can. This is being written prior to the meeting due to an earlier deadline than normal. So I will take a journey into the ether and obtain a glimpse of the future meeting.

Janet Hamm presented an uplifting experience that was felt personally by everyone present. Her biorhythm program seemed to have an instinctive feel for each member that was present (so many came that we had to transfer to Texas Stadium). We were shocked to learn that Glen (our illustrious leader) was actually King George II in his previous life. Herschel Gibbs became so enthralled that he composed a 9 voice song on the spot.

Hank Costello (from Budget Computing) followed Janet with a lively discussion about baseball and basketball simulation games, and their role in determining which teams would be in the playoffs. The basketball decision was made easy by utilizing a coin toss to see which one of the 200 teams would not advance.

Well, this about covers it, except

for the voting in of next year's officers, where the slate was overturned and Ronald Reagan was inducted as a multi-faceted officer.

Here's hoping that each and every person has a happy, joyful, and safe holiday season.

HEB

Robyn Wilson

On December 2nd the MCCC held its annual Christmas party. The turnout was good and fun was had by all. The food was great, thanks to all those who spent time preparing it. There was a short awards ceremony and raffle. Jack DeTore was given the Past President award. Ned Kelly was instated as the new President of the Board of Directors for MCCC for the year 1990. About five nice raffle gifts were given away.

One was a

100 content disk box and some Amiga and

party, but I hear that there was a certain spy from the IBM sect trying to subvert us Commodore users with his subtle discussions on the pros and cons of IBM.

At the December meeting, Jesse Carden showed how to use a VCR in order to make a "video christmas card". All you have to do is hook up your monitor to the VCR. Use the VCR to edit what screens you want to show up on the video cassette, whether it is graphics or text or both. Use the "pause" and "record" keys on the VCR in order to edit. There are a few disks with Christmas programs

size is becoming a problem for a couple of reasons. First is the hassle for our chapter librarians to haul that many disks to each chapter meeting. Second is the addition of our new chapter - Amiga North Dallas. It is not economically feasible for our club to supply and maintain a library for each of the three Amiga chapters. In the interest of fairness, so that each chapter is treated alike, a new Amiga library policy will be effective starting with the January meetings. Gary Campbell has asked me to pass it along to you.

Only the last six months worth of

library disks will be brought to the meetings. Experience has shown that this will accomodate 90% of the disk needs of our members. If you need a disk older than that, you have a couple of options. 1) You may contact your librarian and he will bring the disk that you need or a copy of the disk to the meeting. 2) You may place your order for the disks at the chapter meeting. In that case the librarian can bring it to the



next meeting or he can mail it to you. (Mailing fees are \$1 for 3 disks.) As before, a copy made on your disk is free - a copy made on a club disk carries a fee.

To make things easier for members, a new "Library Section" has been created on the MCCC ASCII BBS. You may use this section to leave messages for our librarians to let them know what you need. There will also be library cataloges available soon for you to download. You will then be able to browse the catalog at your leisure to decide what you need and then make your wishes known.

We expect that this new procedure will be rather painless. If there are problems, please let one of the librarians know. It's your library.

available in the club library.

At the January 20th meeting we are planning on having a demo on a word processor. It will be held at the Hurst Recreation Center at 1:30 pm.

New Library Policy

Bill Raecke

Those of us in the Amiga chapters have seen our library grow month after month until now there are well over 600 disks available. The

Commodore products. There were not only Commodore and Amiga people at the

CHAPTER
NEWSLETTER

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The Fine Print

The Mid-Cities Commodore Club

Statement of Purpose

The Mid-Cities Commodore Club is a not-for-profit organization devoted to the collection and dissemination of computer knowledge, to the encouragement of computer education, and to the use of Commodore computers in the home, at school, and in business.

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Our meetings are open to all. Family membership dues are \$20 per year or \$12 for six months, and entitle the member to a monthly mailed copy of the MCCC News, free access to the club's extensive public domain and shareware software library, and discounts at many area merchants. An additional \$12 annual fee provides access to the MCCC ASCII and Graphic Bulletin Board Systems.

The MCCC News

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The MCCC News accepts two kinds of advertising. Member ads are those which are submitted by a member and which are not of a commercial nature. There is no charge for member ads. Commercial ads are those which advertise multiple like items for sale. Rates for camera-ready commercial ads are as follows for a single month or (consecutive three months): Full Page - \$30 (\$81); Half Page - \$15 (\$40); Quarter Page - \$10 (\$27); Business Card - \$5 (\$13). Materials to be inserted will cost \$.08 per copy (duplication not included) and must be inserted into all newsletters for the month.

Articles

Members are encouraged to submit articles. Articles should be submitted as ASCII text. They may be uploaded to the MCCC ASCII BBS, to StarText (MCCC), or on disk. If these methods are not possible, I will, as a last resort, accept printed articles. If graphics need to be included they may be submitted as Amiga IFF files, PageStream structured drawings, or, again as a last resort, printed output.

Deadline

The deadline for submissions to the MCCC News is the Monday following the third Saturday of each month. Payment must accompany all ad copy. Make checks payable to MCCC and mail to P.O. Box 813, Bedford, Texas 76095.

Calendar of Events

- | | | | |
|--------|--|--------|---|
| Jan 9 | Amiga By-The-Loop Chapter
7:30 PM - N. Richland Hills Church of Christ
David Owens, 817-577-2304 | Jan 18 | Amiga Central Chapter
7:30 PM - Arlington Community Center
Bill Keatley, 817-485-0666 |
| Jan 13 | Arlington/Grand Prairie Workshop
1:30 PM - Grand Prairie Library
Louis Nailor, 214-262-4576 | Jan 20 | Hurst-Euless-Bedford Chapter
1:30 PM - Hurst Recreation Center
Eldor Luedtke, Jr., 817-626-0518 |
| Jan 13 | Fort Worth Chapter
1:30 PM - Southwest Regional Library
Rich Meyer, 817-292-6387 | Feb 3 | MCCC Board of Directors
10:00 AM - N. Richland Hills Community Ctr.
Ned Kelly, 817-277-5825 |
| Jan 16 | Arlington/Grand Prairie Chapter
7:00 PM - Arlington Community Center
Glen Herring, 817-572-0489 | | |

**New Amiga Library Policy
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February Newsletter Deadline - January 22

Normal Meeting Schedule

- | | | | |
|----------|----------------------------------|-----------|---------------------------------|
| 1st Sat | MCCC Board of Directors | 2nd Sat | Fort Worth Chapter |
| 2nd Tues | Amiga By-The-Loop Chapter | 3rd Tues | Arlington/Grand Prairie Chapter |
| 2nd Sat | Arlington/Grand Prairie Workshop | 3rd Thurs | Amiga Central Chapter |
| | | 3rd Sat | HEB Chapter |

MCCC NEWS

Mid-Cities Commodore Club
P.O. Box 813
Bedford, Texas 76095

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